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NATA

Client:

LumCAT: 1545-S

Luminaire: 92.70.064.00

Report No: nt0100

Test No: GC20191225121

LampCAT: LUMINUS CXM-9-AC40

Lamp flux(lm): 1100.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 33.6300

Current(A): 0.2970

Power (W): 9.9800

PF: 1.0000

Ballast type: DC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 921.09, Efficiency(%): 83.74% , Luminous Efficacy(lm/W): 92.29

Central intensity(cd): 1002.459, Maximum intensity(cd): 1002.459

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=51.4

[C90/270]Total=51.4

Field angle(10%Imax): [C0/180]Total=97.0

[C90/270]Total=97.0

Maximum s/h(1/2): C0_180=0.78 C90_270=0.78

Maximum s/h(1/4): C0_180=0.83 C90_270=0.83

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 83.74%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.969%

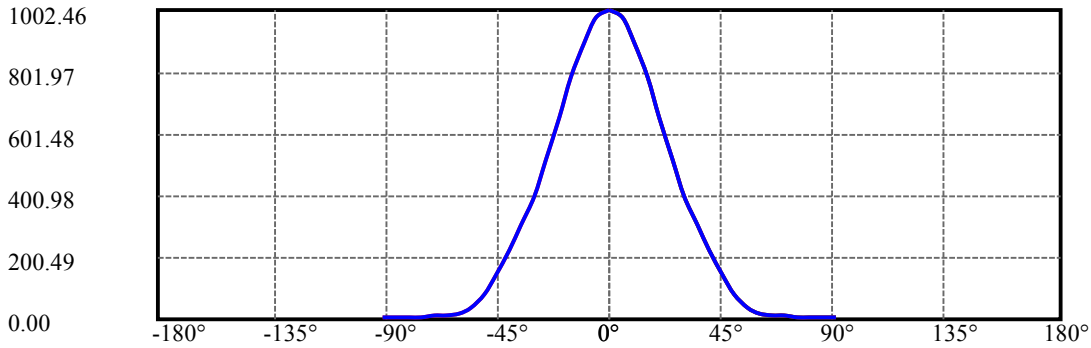
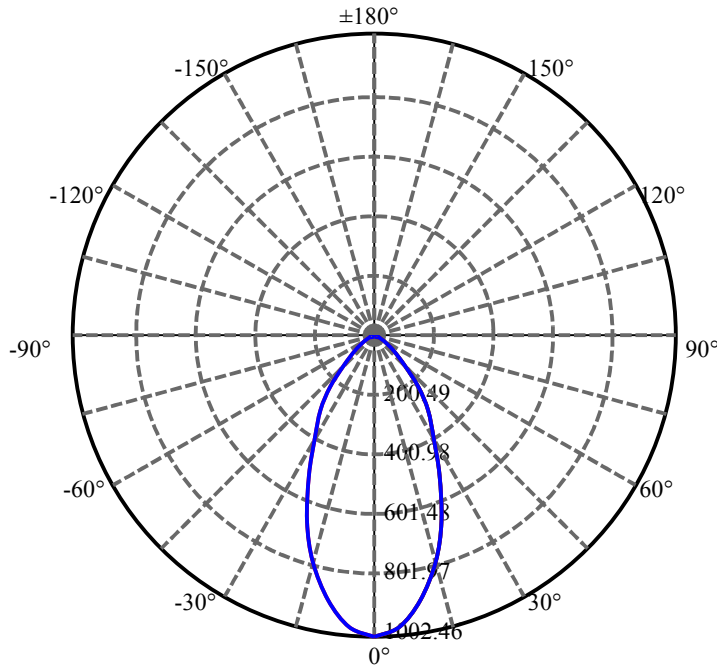
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1002.459	0.000	0	.000%	.000%
5.0	975.185	23.642	23.642	2.149%	2.567%
10.0	897.834	67.004	90.646	6.091%	9.841%
15.0	782.719	99.689	190.335	9.063%	20.664%
20.0	656.501	118.612	308.947	10.783%	33.542%
25.0	516.881	123.066	432.013	11.188%	46.902%
30.0	401.034	116.163	548.176	10.560%	59.514%
35.0	306.176	104.142	652.318	9.467%	70.820%
40.0	223.678	88.402	740.72	8.037%	80.418%
45.0	144.105	68.098	808.818	6.191%	87.811%
50.0	81.773	45.642	854.46	4.149%	92.766%
55.0	37.371	25.906	880.366	2.355%	95.579%
60.0	18.042	12.809	893.175	1.164%	96.969%
65.0	12.227	7.359	900.533	.669%	97.768%
70.0	9.949	5.615	906.149	.510%	98.378%
75.0	8.571	4.841	910.99	.440%	98.904%
80.0	7.045	4.179	915.168	.380%	99.357%
85.0	5.365	3.372	918.54	.307%	99.723%
90.0	3.945	2.549	921.089	.232%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	548.18	49.83%	59.51%
0-40	740.72	67.34%	80.42%
0-60	893.17	81.20%	96.97%
0-90	918.54	83.50%	99.72%
0-120	918.54	83.50%	99.72%
0-180	921.09	83.74%	100.00%
60-90	38.17	3.47%	4.14%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-39.78	736.87	66.99%	80.00%

ZONAL LUMEN SUMMARY

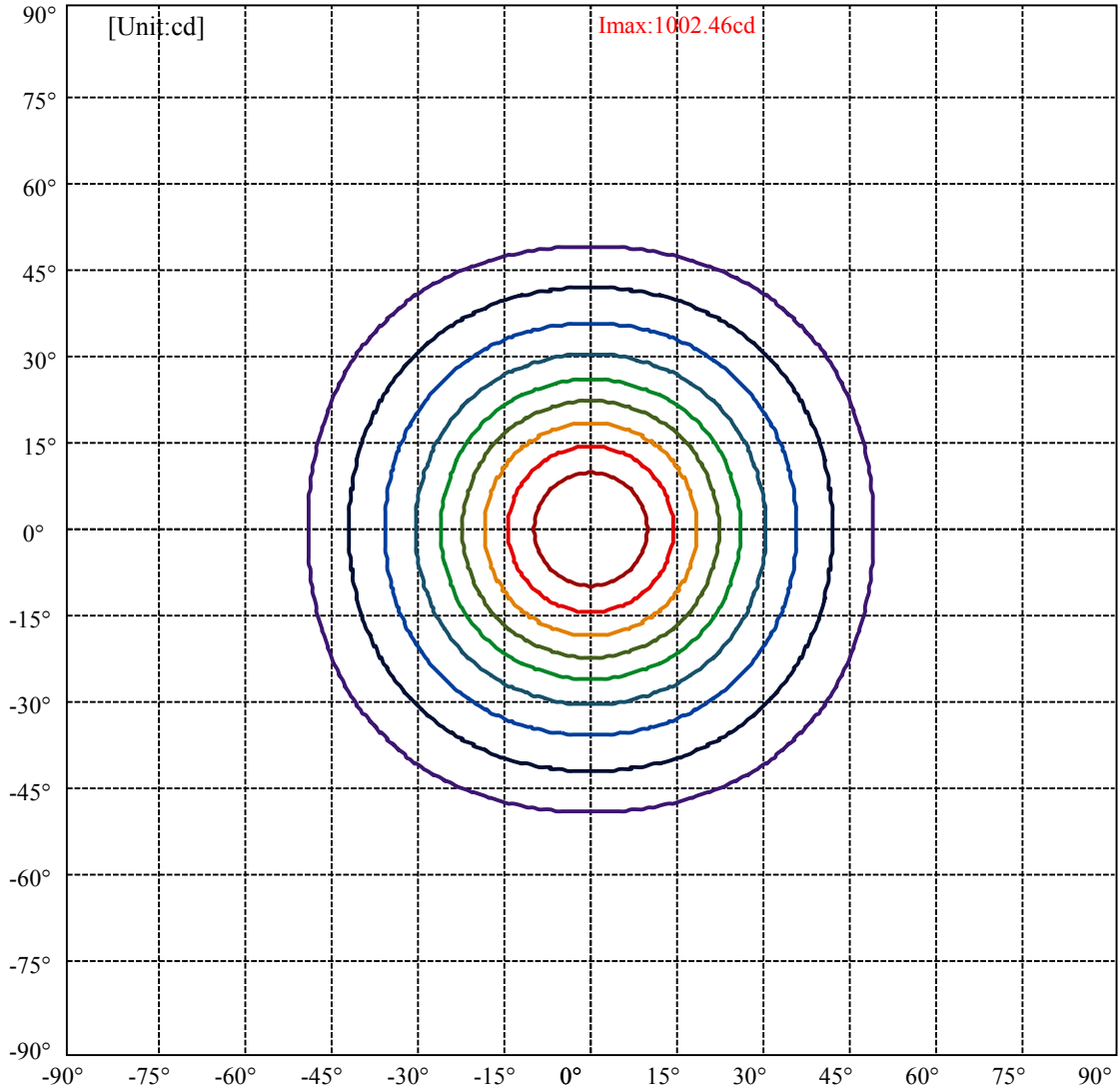
0-10	90.65
10-20	218.30
20-30	239.23
30-40	192.54
40-50	113.74
50-60	38.71
60-70	12.97
70-80	9.02
80-90	3.37
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



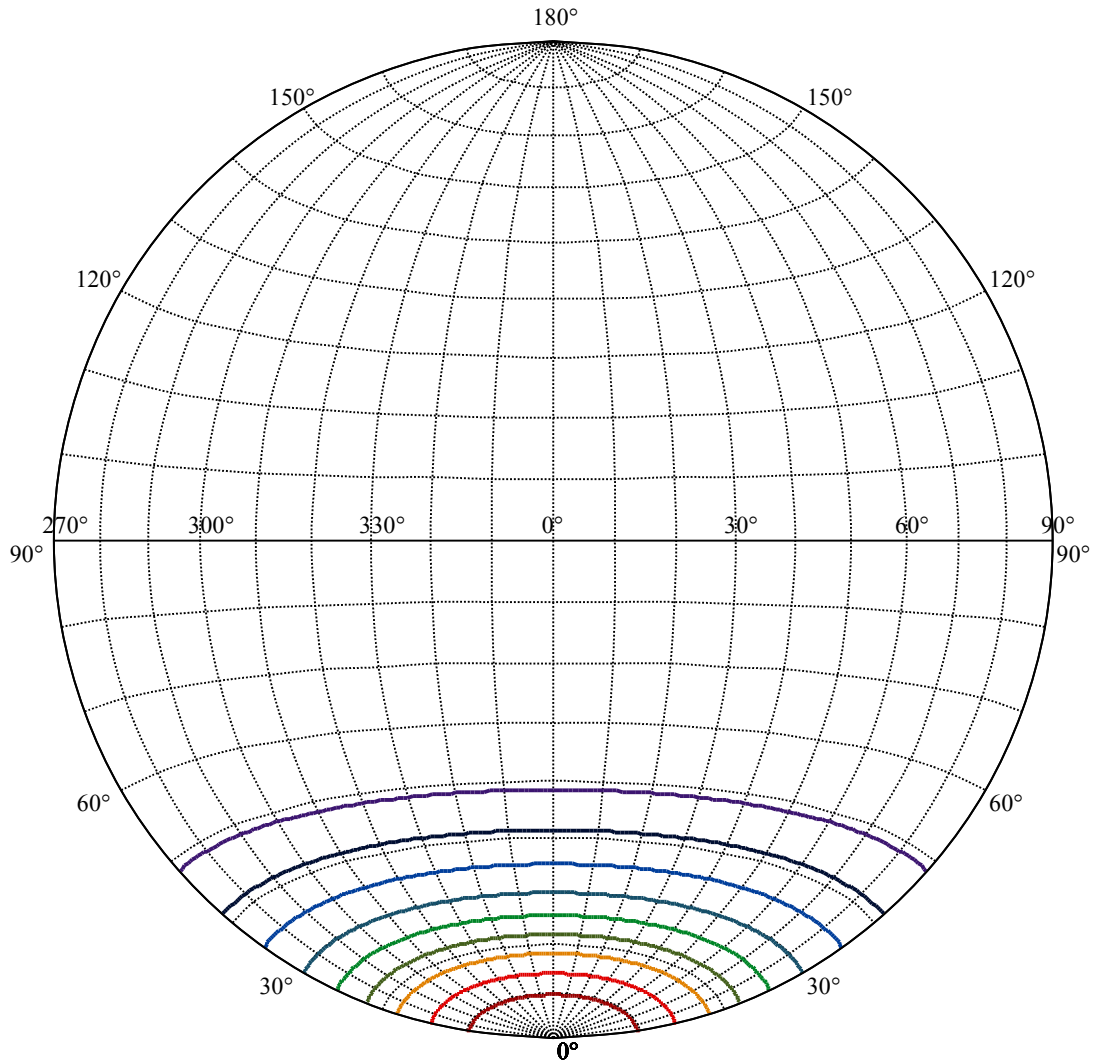
C0(Max): —————
C0/C180: —————
C90/C270: —————

Field angle(10%Imax):C0/180Left:48.5 Right:48.5
:C90/270Left:48.5 Right:48.5

Beam Angle(50%Imax):C0/180Left:25.7 Right:25.7
:C90/270Left:25.7 Right:25.7



(10%Imax) 100.246	—
(20%Imax) 200.492	—
(30%Imax) 300.738	—
(40%Imax) 400.984	—
(50%Imax) 501.23	—
(60%Imax) 601.476	—
(70%Imax) 701.722	—
(80%Imax) 801.968	—
(90%Imax) 902.214	—



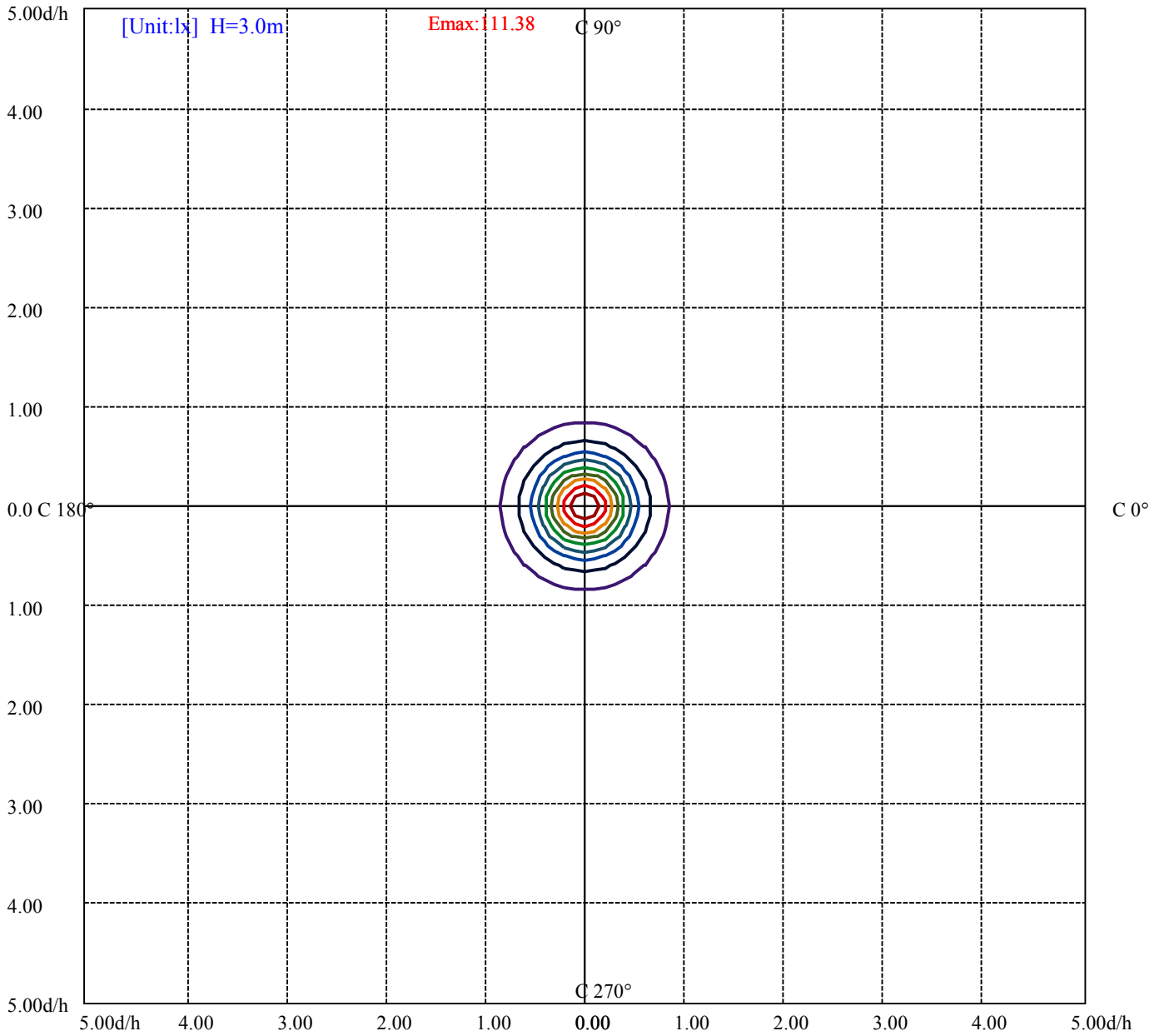
House

[Unit:cd]

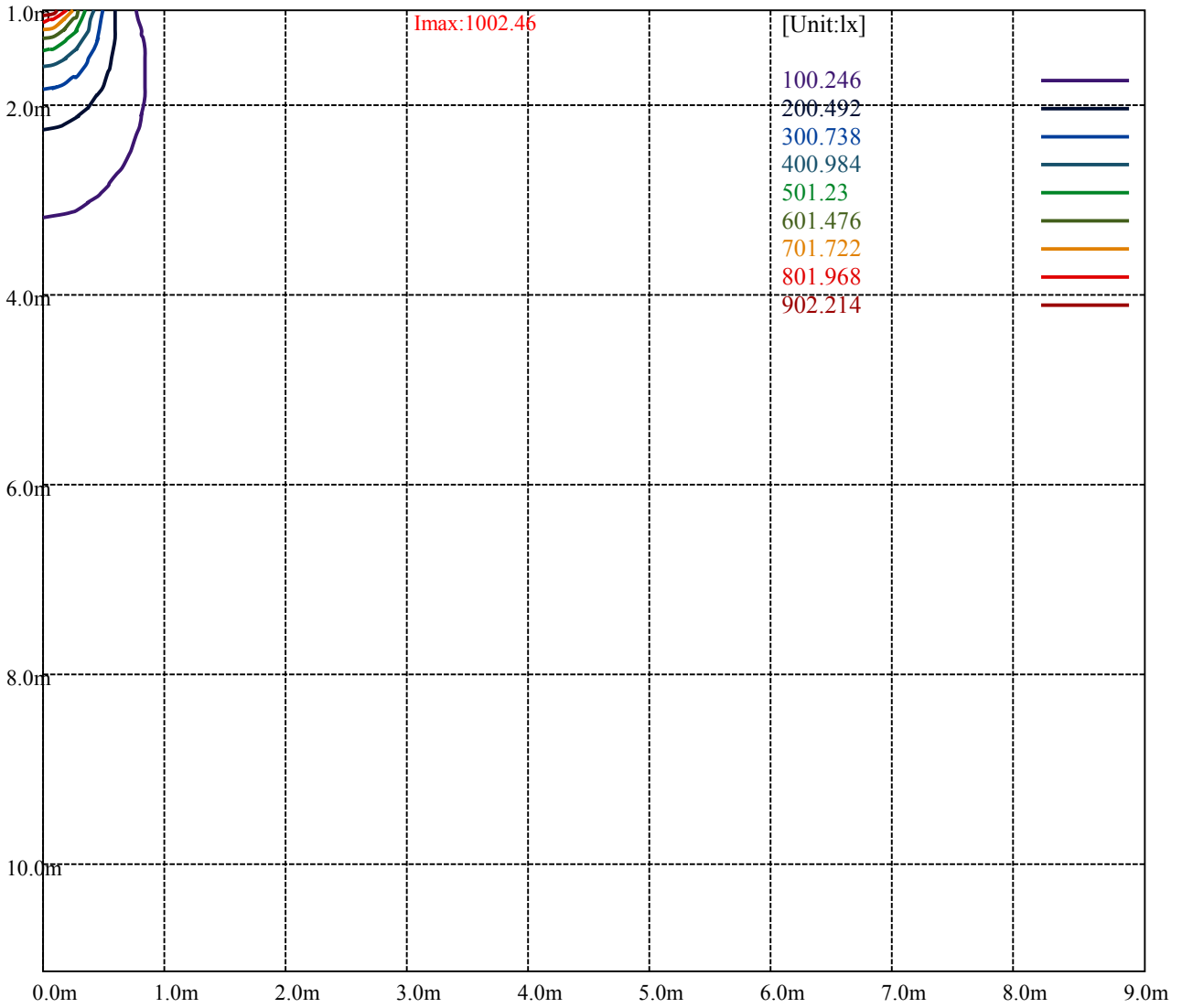
Road

Imax:1002.46

(10%Imax)	100.246	—
(20%Imax)	200.492	—
(30%Imax)	300.738	—
(40%Imax)	400.984	—
(50%Imax)	501.23	—
(60%Imax)	601.476	—
(70%Imax)	701.722	—
(80%Imax)	801.968	—
(90%Imax)	902.214	—



(10%Emax) 11.13844	—
(20%Emax) 22.27689	—
(30%Emax) 33.41533	—
(40%Emax) 44.55367	—
(50%Emax) 55.69211	—
(60%Emax) 66.83055	—
(70%Emax) 77.969	—
(80%Emax) 89.10744	—
(90%Emax) 100.2459	—



Luminance Table

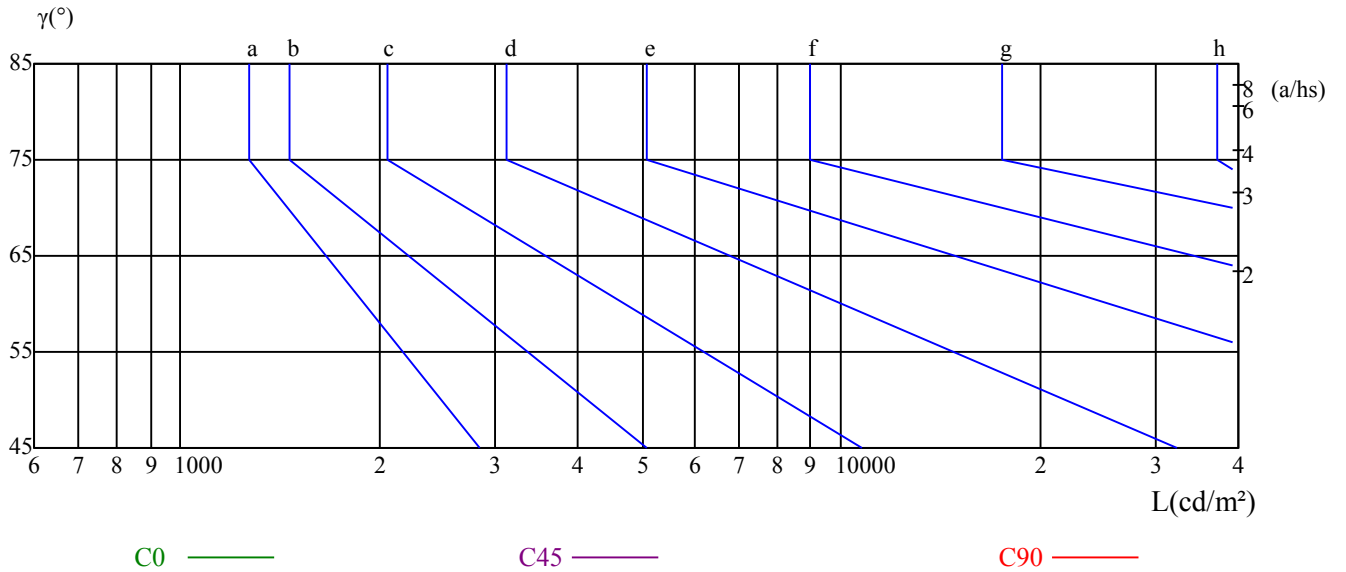
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

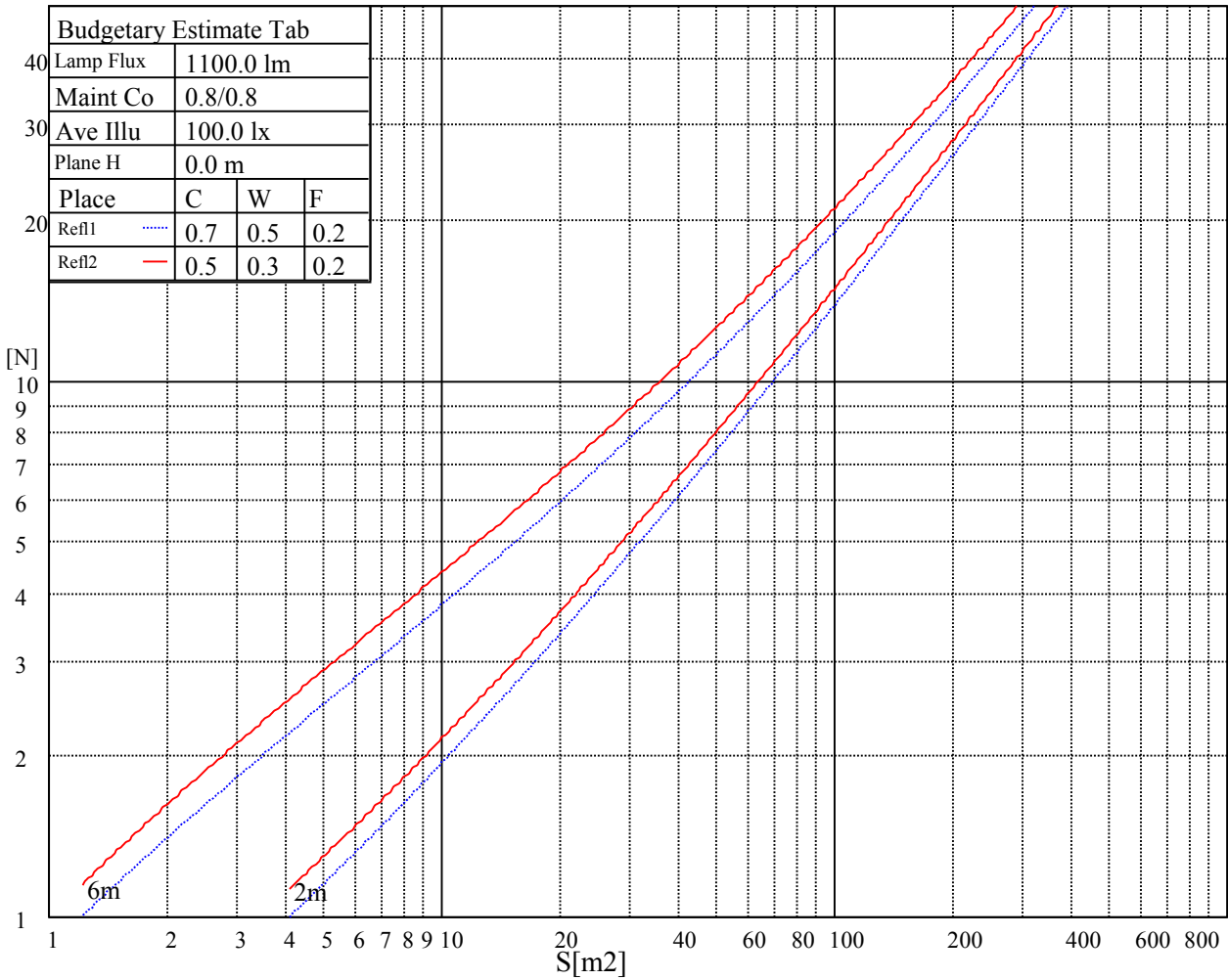
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

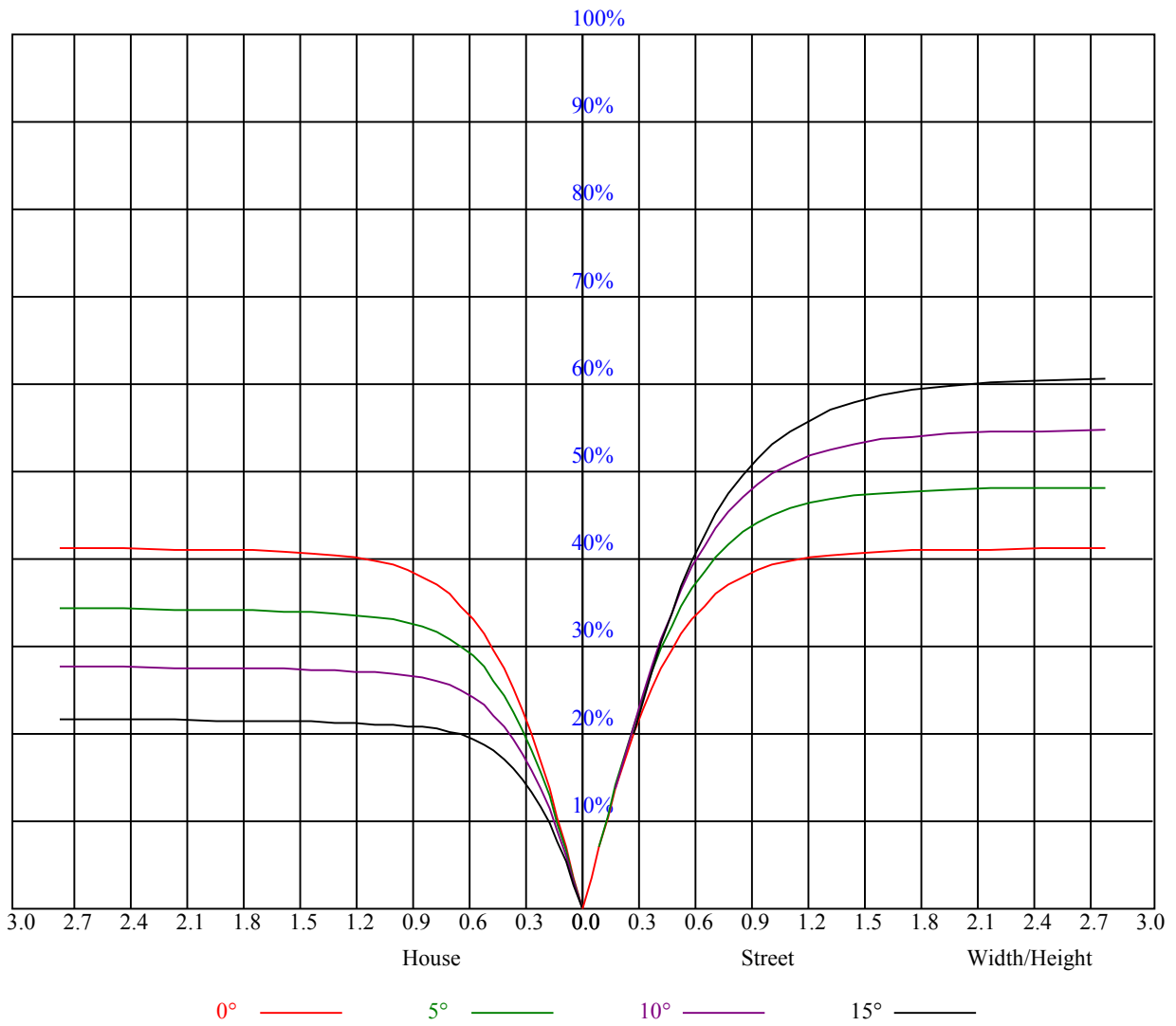
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

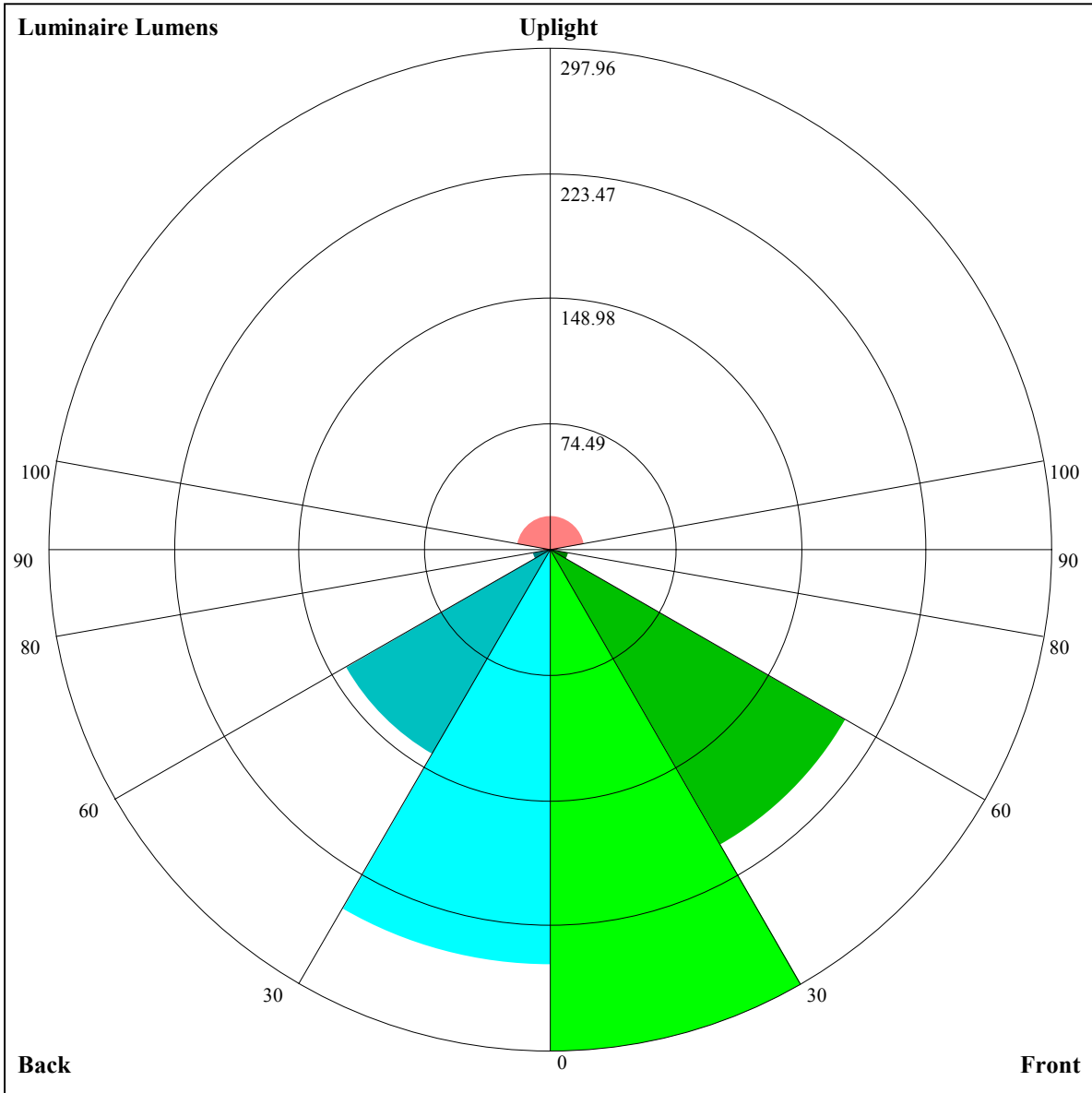
Luminance Limiting Curve





RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	1.00	1.00	1.00	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85	0.84
1	0.92	0.89	0.87	0.90	0.88	0.86	0.86	0.85	0.83	0.83	0.82	0.81	0.80	0.79	0.78	0.77
2	0.84	0.80	0.77	0.83	0.79	0.76	0.80	0.77	0.75	0.78	0.75	0.73	0.75	0.73	0.72	0.70
3	0.78	0.73	0.69	0.77	0.72	0.69	0.74	0.71	0.68	0.72	0.69	0.67	0.70	0.68	0.66	0.64
4	0.72	0.67	0.63	0.71	0.66	0.62	0.69	0.65	0.62	0.67	0.64	0.61	0.66	0.63	0.60	0.59
5	0.67	0.61	0.57	0.66	0.61	0.57	0.64	0.60	0.57	0.63	0.59	0.56	0.62	0.58	0.56	0.54
6	0.62	0.57	0.53	0.61	0.56	0.53	0.60	0.56	0.52	0.59	0.55	0.52	0.58	0.54	0.51	0.50
7	0.58	0.53	0.49	0.57	0.52	0.49	0.56	0.52	0.48	0.55	0.51	0.48	0.54	0.51	0.48	0.46
8	0.54	0.49	0.45	0.54	0.49	0.45	0.53	0.48	0.45	0.52	0.48	0.45	0.51	0.47	0.44	0.43
9	0.51	0.46	0.42	0.51	0.46	0.42	0.50	0.45	0.42	0.49	0.45	0.42	0.48	0.44	0.42	0.40
10	0.48	0.43	0.39	0.48	0.43	0.39	0.47	0.42	0.39	0.46	0.42	0.39	0.46	0.42	0.39	0.38





Luminaire Lumens:

FL=297.96,FM=202.39,FH=11.2,FVH=3.09

BL=246.37,BM=140.35,BH=10.58,BVH=2.9

UL=4.3,UH=20.48

BUG Rating:B1-U2-G0

NATA 1545-S

Intensity data(cd)

C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	985.61	1051.93	1052.44	987.19	855.51	673.93	514.41	403.65	316.58
45.0	1017.11	1010.76	940.95	812.76	668.19	519.81	410.23	323.04	243.28
90.0	1001.42	924.98	802.29	660.66	542.25	429.92	338.18	257.63	180.51
135.0	1005.69	893.81	760.22	622.91	513.73	414.79	326.59	241.43	160.99
180.0	985.61	881.44	737.61	599.91	491.23	391.11	300.26	204.53	130.95
225.0	1017.11	966.38	866.76	738.06	604.01	475.54	373.22	281.42	196.76
270.0	1001.42	1019.53	982.29	882.17	750.26	588.60	455.68	353.81	264.71
315.0	1005.69	1052.66	1040.12	958.11	826.82	641.36	489.71	383.91	295.65
360.0	985.61	1051.93	1052.44	987.19	855.51	673.93	514.41	403.65	316.58
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	232.20	155.81	81.00	30.66	16.88	9.56	7.71	6.69	6.08
45.0	160.59	90.68	35.10	16.76	10.41	8.94	7.76	6.69	5.63
90.0	102.94	47.59	18.11	12.71	11.64	10.74	9.51	7.76	5.96
135.0	85.05	34.20	15.30	14.06	13.67	13.11	12.04	9.34	4.84
180.0	62.78	23.85	13.05	11.93	11.36	10.97	9.34	6.58	3.66
225.0	117.73	57.04	20.36	10.69	9.34	8.44	7.37	6.24	5.23
270.0	180.84	109.35	50.51	21.54	10.18	8.72	7.54	6.69	5.85
315.0	210.71	135.68	65.53	25.99	14.34	9.11	7.31	6.36	5.68
360.0	232.20	155.81	81.00	30.66	16.88	9.56	7.71	6.69	6.08
C/ γ (°)	90.0								
0.0	4.56								
45.0	3.66								
90.0	3.71								
135.0	3.71								
180.0	3.66								
225.0	3.60								
270.0	4.22								
315.0	4.44								
360.0	4.56								